Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

FINAL
Title V, Operating
Permit: V-07-005 R1
Dow Corning Corporation
Carrolton, Kentucky 41008
September 26, 2008
Luis D. Fuentes, Reviewer

SOURCE ID:	21-041-00004
SOURCE A.I. #:	703
ACTIVITY ID:	APE20080001

MINOR PERMIT REVISION (V-07-005 R1):

The source is adding four new pieces of equipment:

1) A furnace for the finishing building. The unit is natural gas fired, with a maximum rated capacity of 17 mmBtu/hr. The source wide potential emissions of volatile organic compounds (VOC), carbon monoxide (CO), particulate matter (PM), nitrogen oxides (NOx), and sulfur dioxide (SO2) will increase due to this addition.
2) A scrubber to vent railcars will be utilized once the bulk of the hydrogen chloride is removed. The scrubber will be used to control the residual hydrogen chloride that is vented from the railcars.
3) A silicon dust recovery unit will be utilized for truck unloading at the G-2 Grinder. All recovered particulates will be returned to the process as a raw material. This process is an insignificant activity.
4) An Octylamine storage tank for C2 process. This process is an insignificant activity.

The proposed emission unit FIN.04, Sign Thermal Dowtherm A Fluid Heater, was added to (2) Utility-Furnaces in Section B of the permit V-07-005 R1 with the corresponding limitations. In addition, (15) S-5 Loading Station was added to Section B of permit for the S-5 8001 Scrubber with requirements for compliance with the early reduction of hazardous air pollutants from the source, due to the emission of ethylene glycol from the S-5 Loading Station. The G-2 Silicon Dust Recovery Unit is listed as (G2.08), under Insignificant Activity number 14. in section C of the permit.

SOURCE DESCRIPTION:

Dow Corning Corporation is a synthetic organic chemical manufacturing industry (SOCMI) falling under SIC code Group 28. The primary operation at the Carrollton plant consists of the manufacturing of silicone-based compounds. The primary raw materials at the plant are silicon, methanol, hydrochloric acid, and methyl chloride. The methanol and hydrochloric acid are combined to produce methyl chloride, which is then reacted with the silicon metal to produce various silicone-based chemicals.

The plant also includes several support activities such as Utilities, Waste Treatment, Quality Assurance Laboratories, Barge Unloading, Product Shipping and Research & Development (labs and pilot plants).

COMMENTS:

a. Emission factors and their source:
AP-42 emission factors were used to estimate emissions from the new furnace.

b. Applicable Regulations:
401 KAR 59:015 applies to the particulate, sulfur dioxide and visible emissions from the furnace.
40 CFR 63 Subpart D (incorporated by reference in 401 KAR 63:002) applies to the emissions of Ethylene Glycol from the S-5 Loading Station scrubber.

EMISSION AND OPERATING CAPS DESCRIPTION:
None

PERIODIC MONITORING:

R-10 PROCESS AREA
The permittee shall monitor the liquid flowrate through the R-10 Rearranger Scrubber.

S-5 LOADING STATION
Water flowrate to the scrubbers shall be monitored daily.

OPERATIONAL FLEXIBILITY:
None

CREDIBLE EVIDENCE:

This permit contains provisions, which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.